

## Properties and Changes in Matter

**2-4 The student will demonstrate an understanding of the properties of matter and the changes that matter undergoes. (Physical Science)**

**2.4.2 Exemplify matter that changes from a solid to a liquid and from a liquid to a solid.**

**Taxonomy level:** 2.2-B Understand Conceptual Knowledge

**Previous/Future knowledge:** Students have explored the concept of changes in kindergarten (seasons) and first grade (the sky), but this is the first time they have learned about changes in matter. This is foundational knowledge that will be further developed in 3<sup>rd</sup> grade (3-4.2) when students explain how water and other substances change from one state to another (including melting, freezing, condensing, boiling, and evaporating).

**It is essential for students to know** that matter can change from a solid to a liquid and a liquid to a solid.

### *Solid to a liquid*

- By heating—for example solid butter, chocolate, popsicles, or ice cream will melt into a liquid when heat is added.

### *Liquid to a solid*

- By cooling—for example melted wax will harden into the shape of its container when heat is removed.

**It is not essential for students to know** about gases at this grade level. They will be introduced to that concept at third grade in indicator 3-4.1.

### **Assessment Guidelines:**

The objective of this indicator is to *exemplify* matter that changes forms; therefore, the primary focus of assessment should be to give examples matter changing from a solid to liquid and a liquid to a solid. However, appropriate assessments should also require students to *identify* examples of matter that has changed using a picture, drawing, or diagram.